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- (Amended) The semiconductor substrate of claim 7, wherein [depositing] dispensing said viscous adhesive material, [includes] comprises:

 placing a template, [having] including at least one aperture, on said semiconductor substrate; depositing said adhesive material into said at least one [template] aperture; and removing said template prior to substantially inverting said semiconductor substrate.
- 13. (Amended) A printed circuit board [having] <u>including</u> at least one conductive bump <u>comprised of a viscous adhesive material</u>, the at least one conductive bump <u>exhibiting a height-to-width ratio of at least approximately 3 to 1 and including a first surface adjacent said printed circuit board and a second surface opposite said first surface exhibiting a generally planar portion over a substantial portion thereof, said printed circuit board including said at least one conductive bump formed by:</u>

providing said printed circuit board with at least one bond pad;

[forming] dispensing a viscous conductive [bump] material on said printed circuit board [bond pad with a conductive material] to substantially define at least one conductive bump exhibiting a height-to-width ratio of at least approximately 3 to 1, said at least one conductive bump in electrical communication with said at least at least one bond pad and including a first surface adjacent said at least one bond pad and a second surface opposite said first surface exhibiting a generally planar portion; and

viscous conductive material and maintaining said printed circuit board in an inverted position at least until said viscous conductive material substantially stabilizes so as to exhibit [obtains] a desired stable shape and lateral boundary [definition of said deposited conductive material] substantially defining sizes of said first and second surfaces of said at least one conductive bump and wherein a substantial portion of said second surface of said at least one conductive bump exhibits a generally planar configuration.

- 14. (Amended) The [method] <u>printed circuit board</u> of claim 13, wherein [forming] <u>dispensing a viscous conductive material on</u> said printed circuit board includes: placing a template, having at least one aperture, on said printed circuit board; depositing said conductive material into said template aperture; and removing said template <u>prior to inverting said printed circuit board</u>.
- (Amended) A flip-chip [having] including at least one conductive bump comprised of a viscous conductive material, the at least one conductive bump exhibiting a height-to-width ratio of at least approximately 3 to 1 and including a first surface adjacent said flip-chip and a second surface opposite said first surface exhibiting a generally planar portion over a substantial portion thereof, said flip chip including said at least one conductive bump formed by:

providing said flip-chip with at least one bond pad;

- [forming] dispensing a viscous conductive [bump] material on said flip-chip [bond pad with a conductive material] to define at least one conductive bump of a selected configuration exhibiting a height-to-width ratio of at least approximately 3 to 1, said at least one conductive bump in electrical communication with said at least one bond pad of said flip-chip and including a first surface adjacent said flip-chip and a second surface opposite said first surface; and
- inverting said flip-chip without substantial lateral confinement of said viscous conductive

 material and maintaining said flip-chip in an inverted position at least until said

 conductive material [obtains] substantially stabilizes so as to exhibit a desired stable

 shape and lateral boundary [definition of said deposited conductive material] substantially

 defining sizes of said first and second surfaces of said at least conductive bump and

 wherein a substantial portion of said second surface of said conductive bump exhibits a

 generally planar configuration.

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- (Amended) The [method] <u>flip-chip</u> of claim 15, wherein [forming] <u>dispensing</u> said <u>viscous</u> conductive [bump] <u>material</u> includes:
 placing a template, [having] <u>including</u> at least one aperture, on said flip-chip;
 depositing a conductive material into said template aperture; and
 removing said template <u>prior to inverting said flip-chip</u>.
- 21. (Amended) An adhesive coated lead frame <u>including at least one attachment</u> surface and at least one other surface extending away from said attachment surface, said attachment surface having an amount of viscous adhesive material deposited on at least a portion thereof and said at least one other surface essentially free of said viscous adhesive material. formed by:

providing a lead frame having at least one lead finger comprising at least one attachment surface and at least one other surface extending away from said attachment surface;

- dispensing [depositing an] a viscous adhesive material on a portion of an attachment surface of said lead finger without dispensing an appreciable amount of said viscous adhesive material on any other surface of said lead finger; and
- inverting said lead frame without effecting substantial lateral confinement of said viscous adhesive material until said adhesive material substantially stabilizes and exhibits [obtains] a desired stable shape and <u>lateral</u> boundary definition [of said deposited adhesive material] wherein said substantially stabilized viscous adhesive material does not substantially encroach upon any other surface of said at least one lead finger.

Please add the following new claims 22 - 60:

The semiconductor substrate of claim 7, wherein said viscous adhesive material of said at least one adhesive patch comprises at least one of the group consisting of a polyimide, a phenolic resin, a thermoplastic, and a thermosetting plastic.

The semiconductor substrate of claim 7, wherein said at least one adhesive patch comprises at least one lateral edge exhibiting an angle of repose of at least approximately 20 degrees. β_3

- The semiconductor substrate of claim 7, wherein said at least one adhesive patch comprises at least one trailing edge exhibiting an angle of repose of at least approximately 13 degrees. $\rho_3 \$
- 25. The semiconductor substrate of claim 7, wherein said at least one adhesive patch comprises at least one leading edge exhibiting an angle of repose of at least approximately 20 degrees.

26. The semiconductor substrate of claim 7, wherein said at least one adhesive patch comprises a height-to-width ratio of at least approximately 3 to 1.

The semiconductor substrate of claim 8, wherein said template including at least one aperture comprises a print screen including a plurality of apertures.

The semiconductor substrate of claim 8, wherein said template including at least one aperture comprises a stencil including a plurality of apertures.

29. The printed circuit board of claim 13, wherein said viscous conductive material of said at least one conductive bump comprises a conductive polymer material.

The printed circuit board of claim 13, wherein said at least one conductive bump comprises at least one lateral edge exhibiting an angle of repose of at least approximately 20 degrees.

- The printed circuit board of claim 13, wherein said at least one conductive bump comprises at least one trailing edge exhibiting an angle of repose of at least approximately 12 degrees.
- 32. The printed circuit board of claim 13, wherein said at least one conductive bump comprises at least one leading edge exhibiting an angle of repose of at least approximately 20 degrees.
- The printed circuit board of claim 14, wherein said template including at least one aperture comprises a print screen including a plurality of apertures.
- 34. The printed circuit board of claim 14, wherein said template including at least one aperture comprises a stencil including a plurality of apertures.
- 35. The flip-chip of claim 15, wherein said at least one conductive bump comprises at least one lateral edge exhibiting an angle of repose of at least approximately 20 degrees.
- 36. The flip-chip of claim 15, wherein said at least one conductive bump comprises at least one trailing edge exhibiting an angle of repose of at least approximately 12 degrees.
- The flip-chip of claim 15, wherein said at least one conductive bump comprises at least one leading edge exhibiting an angle of repose of at least approximately 20 degrees.
- The flip-chip of claim 15, wherein said conductive material of said at least one conductive bump comprises a conductive polymer material.

The flip chip of claim 15, wherein said viscous conductive material of said at least one conductive bump comprises at least one of the group consisting of a polyimide, a phenolic resin, a thermoplastic, and a thermosetting plastic.

The flip-chip of claim 16, wherein said template having at least one aperture comprises a print screen including a plurality of apertures.

The flip-chip of claim 16, wherein said template having at least one aperture comprises a stencil including a plurality of apertures.

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42. The adhesive coated lead frame of claim 21, wherein said viscous adhesive material comprises at least one of the group consisting of a polyimide, a phenolic resin, a thermoplastic, and a thermosetting plastic.

43. A semiconductor substrate including at least one adhesive patch comprised of a viscous adhesive material, the at least one adhesive patch including a first surface adjacent said semiconductor substrate and a second surface opposite said first surface, said second surface exhibiting a generally planar portion over a substantial portion thereof.

44. The semiconductor substrate of claim 43, wherein said viscously dispensed adhesive material comprises at least one of the group consisting of a polyimide, a phenolic resin, a thermoplastic, and a thermosetting plastic.

The semiconductor substrate of claim 43, wherein said at least one adhesive patch comprises at least one lateral edge exhibiting an angle of repose of at least approximately 20 degrees.

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The semiconductor substrate of claim 43, wherein said at least one adhesive patch complises at least one trailing edge exhibiting an angle of repose of at least approximately 13 degrees.

The semiconductor substrate of claim 43, wherein said at least one adhesive patch comprises at least one leading edge exhibiting an angle of repose of at least approximately 20 degrees.

The semiconductor substrate of claim 43, wherein said at least one adhesive patch exhibits a height-to-width ratio of at least approximately 3 to 1.

A printed circuit board including at least one conductive bump comprised of a viscous conductive material exhibiting a height-to-width ratio of at least approximately 3 to 1 and including a first surface adjacent said printed circuit board and a second surface opposite said first surface, said second surface exhibiting a generally planar portion over a substantial portion thereof.

50. The printed circuit board of claim 49, wherein said viscous conductive material of said at least one conductive bump comprises at least one of the group consisting of a polyimide, a phenolic resin, a thermoplastic, and a thermosetting plastic.

The printed circuit board of claim 49, wherein said at least one conductive bump comprises at least one lateral edge exhibiting an angle of repose of at least approximately 20 degrees.

52. The printed circuit board of claim 49, wherein said at least one conductive bump comprises at least one trailing edge exhibiting an angle of repose of at least approximately 13 degrees.

- The printed circuit board of claim 49, wherein said at least one conductive bump comprises at least one leading edge exhibiting an angle of repose of at least approximately 20 degrees.
- A flip-chip including at least one conductive bump comprised of a viscous conductive material, the at least one conductive bump exhibiting a height-to-width ratio of at least approximately 3 to 1 and including a first surface adjacent said flip-chip and a second surface opposite said first surface, said second surface exhibiting a generally planar portion over a substantial portion thereof.
- of said at least one conductive bump comprises at least one of the group consisting of a polyimide, a phenolic resin, a thermoplastic, and a thermosetting plastic.
- The flip-chip of claim \$4, wherein said at least one conductive bump comprises at least one lateral edge exhibiting an angle of repose of at least approximately 20 degrees.
- 57. The flip-chip of claim 54, wherein said at least one conductive bump comprises at least one trailing edge exhibiting an angle of repose of at least approximately 13 degrees.
- 58. The flip-chip of claim 54, wherein said at least one conductive bump comprises at least one leading edge exhibiting an angle of repose of at least approximately 20 degrees.
- An adhesive coated lead frame including at least one attachment surface and at least one other surface extending away from said attachment surface, said attachment surface having an amount of viscous adhesive material deposited on at least a portion thereof and said at least one other surface being essentially free of said viscous adhesive material.

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